

REMARKS

Claims 1-2 and 6-11 are currently pending in the present application. Claim 3 was canceled without prejudice or disclaimer in a prior response. Claims 4 and 5 are canceled without prejudice in the current response. Accordingly, claims 1-2 and 6-11 are currently under consideration. It is noted that although Applicants have canceled claim 4 in an effort to expedite prosecution, Applicants do not concede that the subject matter set forth in claim 4 as presented in the preceding amendment is not supported by the original specification.

Rejection under 35 U.S.C. 112

Claims 1-2, 8-11 were rejected under 35 U.S.C. 112 as lacking written descriptive support.

With regard to claim 1, this claim was rejected because it recites the phrase “said amount of said hydrogen ion conductive polymer electrolyte vary seamlessly in a thickness direction of said anode or said cathode”. This rejection is traversed and it is respectfully submitted that the claims in the application are supported by the specification.

Regarding the feature of the electrolyte varying seamlessly in the thickness direction of the anode “or” the cathode, Applicant respectfully submits that one of ordinary skill in the art would have recognized that Applicant was in possession of this feature. In particular, the entire application is directed to forming an anode or cathode and their constituent parts. For example, the background section of the application teaches that the anode and the cathode can be prepared from a catalyst layer on one side

of a gas diffusion layer. (Page 5, lines 3-5). This is one component of either the anode or cathode electrode.

Further, the specification teaches that either the anode or the cathode can have the feature of varying the electrolyte in a thickness direction of its catalyst layer. (Page 8, lines 24-25). The specification teaches a method for forming such a feature which includes alternately apply a plurality of catalyst forming inks to a substrate. (Page 9, line 18 – page 10, line 4).

The specification then provides specific examples of forming various catalyst layers (which are applicable to either electrode) and the feature of varying the electrolyte therein in more detail. For example, in embodiment 2 (page 16), the specification describes the formation of a catalyst layer of an electrode in which the electrolyte seamlessly varies in the thickness direction. (Page 18, lines 3-11). This example is applicable to both the anode and the cathode without limitation. The specification does not limit itself to require both anode and cathode electrodes to have this feature.

To the contrary, as discussed above, the specification teaches that either the anode or the cathode can have the feature of varying the electrolyte in a thickness direction. This example demonstrates how to achieve that feature in a catalyst layer.

The specification continues with specific examples of forming catalyst layers for either electrode. In Example 4, the specification teaches a process of making a unit cell (cell A2) by using a spray device as shown in Fig. 4. (Page 25, last paragraph). Fig. 6 shows the sectional view of the electrode made according to example 4. (See cell A2 in Fig. 6). In this figure, one electrode is shown where the electrolyte (represented by black dots) is gradually decreased in a thickness direction (see description on p. 29). It should

be noted that Fig. 6 shows only one catalyst layer of one electrode. The application does not assert that both electrodes must have each feature taught therein, and neither would one skilled in the art so conclude. Accordingly, it is respectfully submitted that one of ordinary skill in the art would recognize that the disclosure of the present application clearly permits that the electrodes of the fuel cell can be prepared in different ways and there is no requirement that both electrodes have the same features.

Claim 2

Applicant notes that claim 2 does not recite that the electrolyte varies seamlessly in the catalyst of either the anode “or” cathode. Rather, these claims recite that both the anode and cathode require this feature. Accordingly, this claim should be not be objectionable under § 112. Favorable consideration and allowance of the claims are respectfully solicited.

Correction to IDS

Lastly, Applicant requests the correction of the citation of a reference that was submitted by an Information Disclosure Statement (IDS) on 30 June 2004. In that IDS, Applicant submitted references including DD88122A. However, Applicant incorrectly referenced that citation as “DE88122A”. Accordingly, Applicant has submitted herewith a corrected Form-1449. Applicant respectfully requests the Examiner to substitute the corrected form for the previously filed Form-1449 so that any issued application will correctly cite the submitted reference.

Based on the foregoing, it is respectfully submitted that the application is in condition for allowance. Accordingly, reconsideration and withdrawal of the rejections are respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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